



U.S. CONSUMER PRODUCT SAFETY COMMISSION
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Via E-mail
March 28, 2011

Mr. Brent Cleaveland
Chairman, ASTM F15.24
bcleaveland@fjata.org

Re: ASTM Children's Jewelry Safety Standard Ballot Draft—February 9, 2011.

Dear Mr. Cleaveland:

The U.S. Consumer Product Safety Commission (CPSC) staff appreciates the opportunity to provide the following comments on the draft standard concerning children's metal jewelry.*

Table 6, located in section 8.2.1, contains incorrect semiprecious gemstone and other mineral references. The semiprecious gemstone and mineral references presented contain lead instead of cadmium. If an appropriate list of cadmium semiprecious gemstone and other minerals cannot be identified, the best recourse simply may be to delete named examples.

Section 8 refers to specifications for cadmium in substrate materials of children's jewelry. The referenced tests, sponsored by the Fashion Jewelry and Accessories Trade Association (FJATA), include samples containing 1 percent, 5 percent, and 10 percent cadmium with "economy" or "quality" gold plating. While the data resulting from the FJATA-sponsored study is informative, CPSC staff does not believe that the samples necessarily represent children's jewelry currently in the marketplace. The FJATA testing involved gold-plated products, but other metals are more commonly plated onto children's metal jewelry. It is possible that different types of plating may react differently to stomach acid, although, to the staff's knowledge, no systematic study has been performed.

Children's products already are subject to mandatory lead testing for certification of products' conformity to lead content requirements under the Consumer Product Safety Improvement Act of 2008 (CPSIA). Consequently, there has been discussion within the subcommittee about establishing a content limit for cadmium in jewelry so that testing for cadmium could be done concurrently with testing for lead. CPSC staff agrees that concurrent testing for lead and cadmium would decrease

* These comments are those of the CPSC staff and have not been reviewed or approved by, and may not necessarily reflect the views of, the Commission.

testing costs compared to testing for lead content and separately measuring the solubility of cadmium from a product. As long as the cadmium content is analyzed properly, then CPSC staff could accept the concept of a specified content limit for cadmium in jewelry that could be used in place of solubility testing. The FJATA-sponsored study included a limited number of samples that supports the proposed 300 ppm content limit. CPSC staff members have also conducted limited testing of cadmium-containing products, as well as more extensive testing of similar products that contained lead instead of cadmium, that tends to also support a 300 ppm cadmium content limit. Therefore, while the number of samples tested for cadmium content and cadmium solubility is relatively small, based upon the data that has been generated to date, staff agrees that a cadmium content of a metal jewelry item of up to 300 parts per million (ppm) is not likely to be associated with a significant level of soluble cadmium, and such an item would likely not result in excess cadmium exposure if swallowed. During development of the draft standard, staff expressed to subcommittee members that any data that becomes available that contradicts the conclusion that 300 ppm could be designated as a cadmium content limit would prompt CPSC staff to initiate an activity to revise the standard to be appropriately health protective.

Generally, analysis of cadmium (and lead) in metal is done after completely dissolving a sample in strong acid. X-ray Fluorescence (XRF) analysis is another technique that may be used to quantify low levels of cadmium in a metal substrate. However, accurate results may require testing of a homogenous powder rather than an intact sample. This draft standard could consider XRF as an analytical technique for measuring cadmium content if an appropriate method is developed for this purpose (including homogenization of the sample and use of an appropriate XRF instrument).

Section 11.1 is intended to address ingestion, inhalation, and attachment hazards associated with children's jewelry. The paragraph lists examples of types of children's jewelry where magnets may be found. However, current wording suggests that the listed examples are acceptable without caveat. The sentence should be changed to: "Magnets used in children's jewelry in applications such as: earrings or brooches to attach across earlobes or through cloth; closures or fasteners in necklaces or bracelets; attaching interchangeable charms on bracelets or necklaces; attaching pendant pairs; or locket closures on necklaces or rings must comply with the following requirements."

Section 11.1.3 is intended to allow hazardous magnets or hazardous magnetic components for children ages 8 through 12 years old with a warning. However, the provision currently is written to allow hazardous magnets/magnetic components for children ages 9 through 12 years old implied by the language: "children over 8" with a warning. Therefore, staff recommends that the age group category, "children over 8," be changed to "children 8+" to avoid misinterpretation.

Section 12.5 Method to Determine Cadmium Availability in Children's Metal Jewelry Components should reference correctly the recently released Test Method: CPSC-CH-E1004-11, "*Standard Operating Procedure for Determining Cadmium (Cd) Extractability from Children's Metal Jewelry—February 3, 2011*," instead of the current incorrect text of "CPSC-CH-E1001-11," which does not exist.

Sincerely,

/s/

Jason Howe

Mr. Brent Cleaveland
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cc: Len Morrissey, ASTM International
Colin Church, CPSC Voluntary Standards Coordinator